REMARKS

Claims 129-86 are presented for examination in this application. Claims 34-36, 38-42 and 69-122 were previously withdrawn from consideration by restriction requirement. Claims 1-33, 37, 43-68 and 123-28 have been cancelled, either currently or previously, without prejudice or disclaimer of subject matter. Claims 129-86 have been added to assure Applicant a fuller measure of protection of the scope to which he deems himself entitled. Of the claims under consideration, Claims 129, 133, 156, 158, 181 and 184 are independent claims.

Claims 1-33, 37, 43-68 and 122-28, all the claims that were under consideration in the last Office Action, were rejected under 345 U.S.C. § 102(a) as being anticipated by U.S. Patent 5,745,121 (Politis).

The general nature of the aspects of the invention set forth in the respective independent claims (which correspond respectively to the independent claims that were examined in the last Office Action) has been discussed adequate in previous papers, as has the prior art. As it is not deemed necessary to repeat that discussion in full, Applicant merely submits the following observations.

The aspect of the invention to which independent Claim 129, for example, is a method of creating an image. The image is formed by rendering a plurality of graphical objects to be composited according to one or more compositing operations. Each graphical object has a predetermined object outline. Each compositing operation is at least defined by one or more operands, each operand representing one of the graphical objects or a result of another of the compositing operations. The method determines an active region for each of the graphical objects. Each active region is defined by at least one active region outline.

Each active region outline comprises at least a portion of one of the predetermined object outlines or parts thereof, such that the active region of a particular operand is wholly within the particular graphical object. For example, as described at page 28, lines 2 and 4 of the present specification, the active region of an object is defined to be the region inside the object's outline.[1] That is, the active region of an object is within the boundaries of the object. The outlines of the graphical object can therefore define a region outside of which the object is fully transparent.

The method of Claim 129 determines an active region for each of the compositing operations, the active region for a particular compositing operation being equal to the intersection of the active regions of each operand of the particular compositing operation. The method then determines a clip region for each of the compositing operations, the clip region for a particular compositing operation being equal to the intersection of the active region of the particular compositing operation and the clip region of a parent compositing operation of the particular compositing operation. As described at page 24, lines 8-14, of the present specification, to avoid unnecessary pixel operations each sub-expression needs to be clipped to the intersection of the active regions of each expression in which it appears. Therefore, the clipping region of a sub-expression is determined as the intersection of the active regions of all of the (sub-)expressions in which it appears. Further, as described at page 24, lines 16-21, of the present specification, the clipping region for each sub-expression in a compositing expression can be calculated by recursively setting the clipping region of each sub-expression to the intersection of its

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[1]

Applicant notes that of course the claim scope is not limited by the details of the particular embodiments, which are referred to herein merely to facilitate explanation.

active region and its parent's clipping region. Still further, as described at page 17, lines 13-15, each clip region represents a minimum region in which each sub-expression associated with the corresponding compositing operation contributes to the image.

The method then determines an effective region for each of the compositing operations, the effective region for a particular compositing operation being equal to the intersection of the clip region of the particular compositing operation and the active region of the particular compositing operation. For example, as described at page 28, lines 25-29 of the present specification, the effective regions for each node in an expression tree representing the image are calculated by setting the effective region to the intersection of the active regions of the node's operands and the node's clipping region, if the node is an operation node. The compositing operations are then applied to the effective regions to create the image.

In the Examiner's *Response to Arguments* at page 2 of the Office Action, the Examiner contends that *Politis* discloses in Fig. 17 the calculation of bounding boxes of the leaf nodes, and of the bounding boxes of internal nodes. Further, in making the above rejection, the Examiner contends that *Politis* discloses that bounding box methods are used for locating (determining) active areas (region) of graphical elements (objects) from the nodes. Applicant concurs with these points.

However, Applicant submits that such bounding box methods mean that more pixel operations are needed to process the active regions of graphical objects since bounding boxes are only an approximation to the outline of an object. Some pixels are included in the bounding box approximation of an object that are outside the actual outline (or boundaries) of an object.

In contrast, as discussed above the active region of an object according to the method of Claim 129 is the region within the object (i.e., within the outline or boundary of the object). As recited in independent Claim 129, the method determines an active region corresponding to each of the graphical objects, each such active region being defined by at least one active region outline, and each such active region outline comprising at least a portion of one of the predetermined object outlines or parts thereof such that the active region of a particular object is wholly within that particular object. The active regions determined by the method of Claim 129 are then used as the basis for determining a clip region for each of the compositing operations and then determining an effective region for each of the compositing operations. These features of the method of Claim 129 reduce the amount of work done by a rendering apparatus by calculating for each compositing operation in an expression to be rendered, the smallest region of the page in which the operation needs to be performed. Accordingly, the number of pixel operations needed to evaluate a given compositing expression is minimized.

Applicant submits that *Politis* fails to teach or even suggest these recitations of Claim 129, of determining an active region for each of the mentioned operands, where each of the active regions is defined by at least one active region outline, each such active region outline comprising at least a portion of one of the predetermined object outlines or parts thereof, such that the active region of a particular operand is wholly within a graphical object being represented by the particular operand.

Further, Applicant submits that *Politis* fails to teach or even suggest the recitation of Claim 129 of determining a clip region for each of the mentioned compositing operations, the clip region for a particular compositing operation being equal to the

intersection of the active region of the particular compositing operation and the clip region of a parent compositing operation of the particular compositing operation. Still further, Applicant submits that *Politis* fails to teach or even suggest the recitation in Claim 129 of determining an effective region for each of the mentioned compositing operations, with the effective region for a particular compositing operation being equal to the intersection of the clip region of the particular compositing operation and the active region of the particular compositing operation.

For all these reasons, Applicant submits that independent Claim 129 is in condition for allowance.

For similar reasons to those discussed above for independent Claim 129, Applicant also submits that independent Claims 133, 156, 158, 181 and 184 are each also in condition for allowance.

A review of the other art of record has failed to reveal anything which, in the Applicant's opinion, would remedy the deficiency of the art discussed above as references against the independent claims under consideration herein. Those claims are therefore believed patentable over the art of record.

The other claims under consideration in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested.

A Third Information Disclosure Statement is submitted herewith.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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